

METHOD AND WCDMA RECEIVER FOR HIGH-RATE AND LOW-RATE  
PHYSICAL CHANNEL RECEPTION

Abstract of the Disclosure

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10 A spread-spectrum receiver has a high-rate path to receive multi-rate  
channels and a low-rate path to receive fixed-rate channels. In a wideband code  
division multiple access (WCDMA) embodiment, the high-rate path despreads  
multi-rate physical channels having a variable spreading factor and the low-rate  
15 path despreads physical channels having a fixed spreading factor. The high-rate  
path may have high-rate rake fingers to despread multipath components of the  
multi-rate channels. Each multi-rate channel may have a different spreading code  
allowing for multicode reception. The high-rate path may also include a high-rate  
rake with finger engines implemented in hardware to multiply symbols with a  
20 channel estimation, and a combiner to combine the multipath components. The  
low-rate path may include low-rate fingers to despread multipath components of  
the fixed-rate channels and a processor to generate a channel estimation and  
coherently combine symbols from the low-rate fingers with the channel  
estimation.

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